

ABSTRACT

One exemplary embodiment is a structure comprising a laminate substrate having a top surface for receiving a semiconductor die. The exemplary structure further comprises an antenna element situated on a bottom surface of the laminate substrate, where the antenna element is suitable for connection to the semiconductor die.

According to this exemplary embodiment, the structure further comprises a laminate substrate reference pad in the laminate substrate, where the laminate substrate reference pad is situated over the antenna element. The exemplary structure further comprises at least one laminate substrate reference via situated at a side of the antenna element. The at least one laminate substrate reference via can be electrically connected to the laminate substrate reference pad. The at least one laminate substrate reference via can be electrically coupled to a printed circuit board reference via in a printed circuit board.